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THE REPORT of the success of the A. A. A. S. committee in securing a table for investigators at the Naples Zoological Station will be found on p. 283. As botanists were asked to coöperate in this endeavor, and did so coöperate, and as the Station makes generous provision for the study of marine and littoral plants, and as it is quite possible that a botanist may make application for the use of this table, it would have been a gracious, not to say a just, thing to recognize botanists in the formation of the advisory committee, which is at present composed entirely of zoologists.

Probably Secretary Langley was deceived by his knowledge of the English language into thinking that the American Morphological Society was not composed wholly of *animal* morphologists, and the Association of American Anatomists entirely of *animal* anatomists.

CURRENT LITERATURE.

Minor Notices.

In a monograph illustrated by two carefully prepared plates with forty-two figures, Dr. J. W. Moll publishes his results of a critical and exhaustive study on the karyokinesis of Spirogyra, together with a brief outline of the method used.¹ The latter is a most commendable feature, as no work of this kind can be thoroughly understood without some knowledge of the method pursued.

In the introduction, the author gives a comparative *résumé* of the results of several eminent observers upon the details in question.

Certain details in method are unique, and cannot be wholly without interest. Short pieces of Spirogyra threads are fixed in Flemming's mixture, and after thorough washing and bringing into 90 per cent. alcohol by means of a dialyser, they are imbedded in small bits of celloidin in order to facilitate handling and correct orientation. The bits of celloidin with the imbedded threads, are now stained with gentian violet, imbedded in paraffin and sectioned on a microtome.

The author deals at some length with the finer details of structure of the nucleolus and plasm, which, by this method, are brought out with great clearness. The view, held by several authors, that the nucleolus furnishes the chromatic substance, is supported. After a

¹MOLL, J. W.:—Observations on karyokinesis in Spirogyra. Sep. from Verh. d. k. Akad. v. Wetensch. te Amsterdam. Sect. II, 1. no. 9 (repaged).

discussion of the facts which seem to justify the conclusion, Dr. Moll says: "The chromatic substance, which will form the segments at an early stage leaves the nucleolus and is transferred into the nuclear plasm. At this stage the nucleolus assumes a modified shape, getting pointed at one side and at this point the chromatic substance leaves it, appearing in the nuclear plasm as small fragments, ranged in an intermediate, achromatic thread like the beads of a necklace; and thus a skein, containing chromatic substance, is formed.

Doubt is expressed as to the origin of the thread linking the chromatic fragments together, but it is thought probable that the thread is first formed from the nuclear plasm and that afterwards the chromatin flows out into it. The author is inclined to think further that the process of karyokinesis in *Spirogyra* is not essentially different from that in higher plants.

Many other interesting and important details are brought out which can only be appreciated and understood by a careful reading of the entire paper.—D. M. M.

THE thirty-fifth contribution from the Herbarium of Columbia College is entitled "An enumeration of the plants collected by Dr. Thomas Morong in Paraguay, 1888–1890," by Thomas Morong and N. L. Britton, assisted by Miss Anna Murray Vail. It is reprinted from the Annals N. Y. Acad. Sci. VII. 45–280. Dr. Morong's expedition to South America is a record of unusual courage and devotion to science, and this bulky, well wrought contribution is one of its results. The study of such material is peculiarly difficult and can only be thoroughly done at a few favored places. In this case, recourse was had to the great collections of Europe before the work could be completed. Full notes in the field and in the herbarium largely increase the value of this contribution to the South American flora. Some idea of the wealth of material obtained can be had from the statement that nine hundred and thirteen phanerogams (distributed through one hundred and three families), and fifty-three pteridophytes are enumerated, eighty-three of the former being described as new species. The largest families are Compositæ (103), Gramineæ (91), Leguminosæ (87), Cyperaceæ (47, and only two of them carices), Euphorbiaceæ (36), Solanaceæ (36), and Malvaceæ (31). Euphorbiaceæ and Solanaceæ yielded the largest number of new species.

A RECENT CONTRIBUTION from the Gray Herbarium, of Harvard University is announced as no. III of a new series, two previous papers published by Dr. Robinson in Proc. Amer. Acad. being regarded as nos. I and II. The present one contains "Additions to the Phænogamic Flora of Mexico, discovered by C. G. Pringle in 1891–

'92," and is credited to the joint authorship of Dr. Robinson and Mr. H. E. Seaton. Thirty-four new species and varieties are described.

MR. J. CHRISTIAN BAY, of the Missouri Botanical Garden, has just published a bibliography of the tannoids, being issued in advance from the fifth annual report. Such publications are exceedingly useful, and become necessary for the preparation of monographs. It will be remembered that the same author has previously published a similar bibliography of inulin.

A CHECK LIST of the plants contained in the sixth edition of Gray's Manual has been compiled by John A. Allen and issued from the Herbarium of Harvard University. The species have serial numbers, including the varieties, and show a total of 3,781. An appendix attempts to enumerate the additional plants found within the limits of the manual since the issue of the sixth edition, bringing the total number to 3,937.

PROFESSOR A. S. HITCHCOCK has published a Key to Kansas trees in their winter condition reprinted from the 8th biennial report of the Kansas State Board of Agriculture.

OPEN LETTERS.

The bibliography of American botany.

With respect to a yearly bibliography and reference-work of American botanical literature, I have been asked to submit the following points to fellow-workers:

1. American botanical literature is playing a very important rôle in our science. Therefore it will be a very necessary step to take to publish a work similar to Just's *Jahresbericht* which could furnish:

- (a) A list of papers and works in every department of botany, *absolutely complete*.
- (b) A review of each of these papers and works, short and perfectly *objective*.

2. A work of this kind ought to be published every year.

3. In order to bring forth such a work, the importance of which would be international, it ought to be published and sold separately, and not be assimilated by any report or periodical. In the latter case it would to many botanists be inaccessible. With special reference to the Smithsonian publications I will state that in other countries these are very expensive and hardly ever seen in private libraries. A work on American botanical literature should be made accessible to every botanist all the world over.

4. Therefore, the publishing should, as far as the business management goes, be in the hands of a publisher.